

We Claim:

1. A cardiac harness configured to fit about a patient's heart, the harness comprising a conductive material, the conductive material being coated with a dielectric coating to electrically insulate at least the heart tissue from the conductive material.
2. The cardiac harness of claim 1, wherein the conductive material is entirely coated with the dielectric coating so that the entire harness is electrically insulated.
3. The cardiac harness of claim 1, wherein the harness is coated with a layer of Parylene™ about 5 microns thick.
4. The cardiac harness of claim 1, wherein the harness is coated with silicone rubber.
5. The cardiac harness of claim 1, wherein the dielectric coating comprises an elastomer.
6. The cardiac harness of claim 1, wherein the dielectric coating includes urethane.
7. The cardiac harness of claim 1, wherein the dielectric coating includes polytetrafluoroethylene.
8. The cardiac harness of claim 1, wherein the dielectric coating includes Parylene™.

9. The cardiac harness of claim 1, wherein the conductive material comprises a wire formed into a plurality of hinge members.
10. A method of manufacturing a cardiac harness, comprising:
providing a metallic wire;
forming the wire into a plurality of spring members; and
covering the wire with a dielectric material.
11. The method of claim 10, wherein the covering comprises:
introducing a fluid into a tube; and
sliding the tube over the wire.
12. The method of claim 11, wherein a solvent is introduced into the tube.
13. The method of claim 11, wherein the sliding comprises sliding the tube onto a leader portion of the wire and sliding the tube from the leader portion onto a harness portion of the wire comprised of the spring members arranged in a first configuration.
14. The method of claim 13, wherein the sliding onto the harness portion comprises changing the shape of the spring members by straightening the harness portion of the wire, the method further comprising substantially returning the shape of the spring members to substantially the first configuration.

15. The method of claim 10, wherein the dielectric material comprises silicone.
16. The method of claim 10, wherein the wire is formed into the spring members prior to being covered with the dielectric material.
17. The method of claim 16, wherein the covering comprises:
applying the dielectric material to the wire such that the wire is insulated by the dielectric material; and
removing excess dielectric material from the wire so that the shape of the dielectric material generally follows the shape of the spring members.
18. The method of claim 17, wherein the removing comprises laser cutting the dielectric material.
19. The method of claim 17, wherein the dielectric material comprises silicone.
20. The method of claim 10, wherein the wire is coated with the dielectric material prior to being formed into a plurality of spring members.
21. A method of manufacturing a cardiac harness, comprising:
providing a flat sheet of conductive material;
etching at least one spring member out of the conductive material; and
coating the etched spring member with a dielectric material.
22. The method of claim 21, wherein the coating comprises:

applying the dielectric material to the etched spring member so that the etched spring member is insulated by the dielectric material; and

removing excess dielectric material from the etched spring member so that the shape of the dielectric material generally follows the shape of the spring members.

23. The method of claim 22, wherein the removing comprises laser cutting the dielectric material.

24. The method of claim 22, wherein the dielectric material comprises silicone.

25. A cardiac harness which circumferentially surrounds a patient's heart and extends longitudinally from an apex portion to a base portion of the heart, comprising:

a first portion and a second portion, the first portion configured to be disposed closer to an apex portion of the heart than the second portion;

the first portion comprising a plurality of interconnected panels that are electrically insulated from one another along respective longitudinal sides to inhibit electrical conduction circumferentially about the harness; and

the second portion being electrically insulated from the first portion.

26. The cardiac harness of claim 25, wherein the second portion comprises a plurality of circumferentially extending rings comprising a plurality of interconnected spring elements, the rings being electrically insulated from one another.

27. The cardiac harness of claim 25, wherein the first portion is connected to the second portion by at least one non-conductive connector.

28. The cardiac harness of claim 27, wherein the first and second portions are coated with a dielectric material, and the at least one non-conductive connector comprises the dielectric material.

29. A cardiac harness, comprising:

a first spring array and a second spring array, each spring array comprising a plurality of zig portions interconnected with a plurality of zag portions such that the array is generally zigzag shaped, each of the zig portions and zag portions comprising a plurality of interconnected spring elements;

wherein the first and second spring arrays are connected to one another at a plurality of discrete locations corresponding to interconnections of a zig portion with a zag portion.

30. The cardiac harness of claim 29, additionally comprising an elongate coil, one or more windings of the coil surrounding portions of adjacent spring arrays at at least some of the discrete locations.

31. The cardiac harness of claim 29, wherein the spring array is formed from a single piece of material.

32. The cardiac harness of claim 29, wherein the spring array is formed from shape memory material.

33. A cardiac harness configured to fit about a patient's heart, the harness comprising a plurality of interconnected spring members comprised of a conductive material, at least some of the spring members connected to other spring members by a dielectric material such that the dielectric connected spring members are substantially electrically insulated from each other.